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ABSTRACT

Students at 15 Wake County Public School System, North Carolina, (WCPSS) high schools took approximately 4,878 Advanced Placement (AP) examinations offered by the College Board in 2001-2002. With 20% of all juniors and seniors in the district taking at least one AP examination, the percent attaining a score of 3 or higher on a 5-point scale (the score typically needed to qualify for college course credit) reached a 10-year high of 80.5%, up 3.3 percentage points from the previous year. The overall success rate for WCPSS was higher than that of comparable large school districts, and 17 percentage points higher than the rate for the nation as a whole. On the five most frequently taken AP examinations, the percent of scores of 3 or higher rose an average of 8.6 points. (Contains 23 figures.) (SLD)

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ADVANCED PLACEMENT EXAM RESULTS 2001-2002

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WAKE COUNTY PUBLIC SCHOOL SYSTEM

ADVANCED PLACEMENT EXAM RESULTS
2002-02

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ADVANCED PLACEMENT EXAM RESULTS
2001-2002

ABSTRACT

Students at 15 Wake County Public School System (WCPSS) high schools took approximately 4,878 Advanced Placement exams offered by the College Board in 2001-02. With 20% of all juniors and seniors in the district taking at least one AP exam, the percent attaining a score of 3 or higher on a 5-point scale (the score typically needed to qualify for college course credit) reached a 10-year high of 80.5%, up 3.3 percentage points from the previous year. WCPSS' overall success rate was higher than that of comparable large school districts, and 17 percentage points higher than the rate for the nation as a whole. On the five most frequently taken AP exams, the percent of scores that were 3 or higher rose an average of 8.6 points.

Executive Summary

College-level courses are offered to high school students through the Advanced Placement program. Many colleges and universities provide course credit to students who earn a high score on the end-of-year exams which are offered by the College Board. Almost 60% of U.S. high schools offer AP course work, and more than 900,000 high school students participated in AP programs during the 2001-02 school year (College Board, 2002).

All 15 comprehensive high schools in the Wake County Public School System (WCPSS) offer AP courses. Approximately 3,754 WCPSS students took at least one AP course in 2001-02. Many students took more than one AP course. However, not all students enrolled in AP courses took an AP exam in the subject. In 2001-02, 2,344 WCPSS juniors and seniors took a total of 4,878 AP examinations. This report examines AP exam participation and performance results for WCPSS with comparisons to other large school districts, the state of North Carolina, the South, and the United States.

PARTICIPATION

After increasing about 1% annually (from approximately 16% in 1997 to approximately 20% in 2001), the participation rate of WCPSS juniors and seniors in AP testing leveled off in 2002. Although both the number of exams taken and the number of students taking them rose by 13% and 10% respectively, total student membership in 11th and 12th grades increased as well, so the overall participation rate did not change.

Participation by racial groups continues to vary widely. While White students comprised 71% of 11th- and 12th-grade membership in 2001-02, 82% of students enrolled in AP courses were White. Asian students were also over-represented in AP course enrollment. Asian students

constituted 4% of 11th- and 12th-grade membership, but accounted for 8% of AP course enrollment. In contrast, Black students comprised 22% of 11th- and 12th-grade membership but only 8% of students enrolled in AP courses. Hispanic/Latino students were under-represented in AP course enrollment to lesser degree (they represented 2.4% of membership vs. 1.5% of AP course enrollment).

There also was a difference in participation by gender, with female students more likely to take AP courses than male students. While females comprised 50.2% of 11th- and 12th-grade membership, 55.3% of students enrolled in AP courses were female.

OVERALL PERFORMANCE

Scores on the AP exams range from 1 to 5, and many colleges and universities award course credit for a score of 3 or higher on the AP exams. Thus, one common measure of performance on the AP exams is the percent of exams with a score of 3 or higher.

WCPSS students performed better on AP exams in 2001-02 than they have in the past ten years. The percent of all exams with a score of 3 or higher was 80.5%, an increase of 3.3 percentage points from the previous year. The WCPSS success rate was significantly higher than results for students in North Carolina, the South, and the United States. WCPSS performance was also higher than a sample of comparable large school districts in Florida and Georgia.

The performance of WCPSS Asian, Hispanic/Latino, and White students on the AP exams was similar. The percent of Black students who scored 3 or higher on AP exams, however, was significantly lower (approximately 21 percentage points) than other racial/ethnic groups. Male students performed slightly better than female students, with 82% of males and 79% of females scoring 3 or higher.

PERFORMANCE ON SELECTED AP EXAMS

AP exams were offered for 35 courses in 19 subject areas in 2002. WCPSS students took AP exams in 30 of the 35 courses. Five courses (Biology, Calculus AB, English Language and Composition, English Literature and Composition, and U.S. History) were selected for a closer look because a relatively large number of students take these exams in all WCPSS high schools. WCPSS performance on each of these exams was higher than the performance of students in North Carolina, the South, and the United States. WCPSS performance also compared favorably to a sample of large school districts in Florida and Georgia.

SCHOOL RESULTS

There was large variation across WCPSS high schools in the percentage of students who took at least one AP exam each year. In 2001-02, Enloe High School (a magnet high school for academically gifted students) had the highest participation rate at 45%. Participation among 11th- and 12th-grade students at other high schools ranged from approximately 10% to 33%.

The percent of AP exam scores of 3 or higher varied widely from school to school in 2001-02, from approximately 46% at East Wake to 91% at Apex. All schools except East Wake exceeded the national figure of 63.4% for the percent of scores of 3 or higher.

There also were fairly wide differences among schools in each of the five courses examined. WCPSS had strong overall performance in Calculus AB (92.6%), and this was reflected in seven schools having 100% of students scoring 3 or higher. On the other hand, overall performance was lowest on the U.S. history exam (70.4%), and only five schools had more than 75% of students scoring 3 or higher on this exam.

Overall Results

BACKGROUND

Administered each May, the 35 Advanced Placement (AP) Examinations test students' ability to perform at a college level in 19 subject areas. The College Board sponsors the program. Participating colleges and universities may grant credit to students who have done well on the AP examinations.

AP examinations are scored on a five-point scale. The scale can be interpreted as follows:

- 1—no recommendation
- 2—possibly qualified
- 3—qualified
- 4—well qualified
- 5—extremely well qualified

Many colleges and universities provide course credit to students scoring a 3 or higher. For descriptions of all AP courses, and information about the AP testing program, consult the College Board's Web site at ***http://www.collegeboard.com***.

OVERALL AP RESULTS FOR 2001-02

The performance of WCPSS students taking AP exams in 2001-02 showed substantial improvement compared to the previous year. As shown in Column 3 of Figure 1, both the average exam score (3.48) and the percent of tests with scores of 3 or higher (80.5%) reached new ten-year highs in WCPSS (only figures for the past six years are shown in the table). These statistics are based on the results of 4,878 AP exams taken in 2001-02.

As in previous years, AP exam results in WCPSS surpassed those of North Carolina, the South, and the nation as a whole. A much higher percentage of WCPSS students scored a 3 or higher (the score typically needed to qualify for college course credit) than students in the country as a whole---80.5% vs. 63.4%.

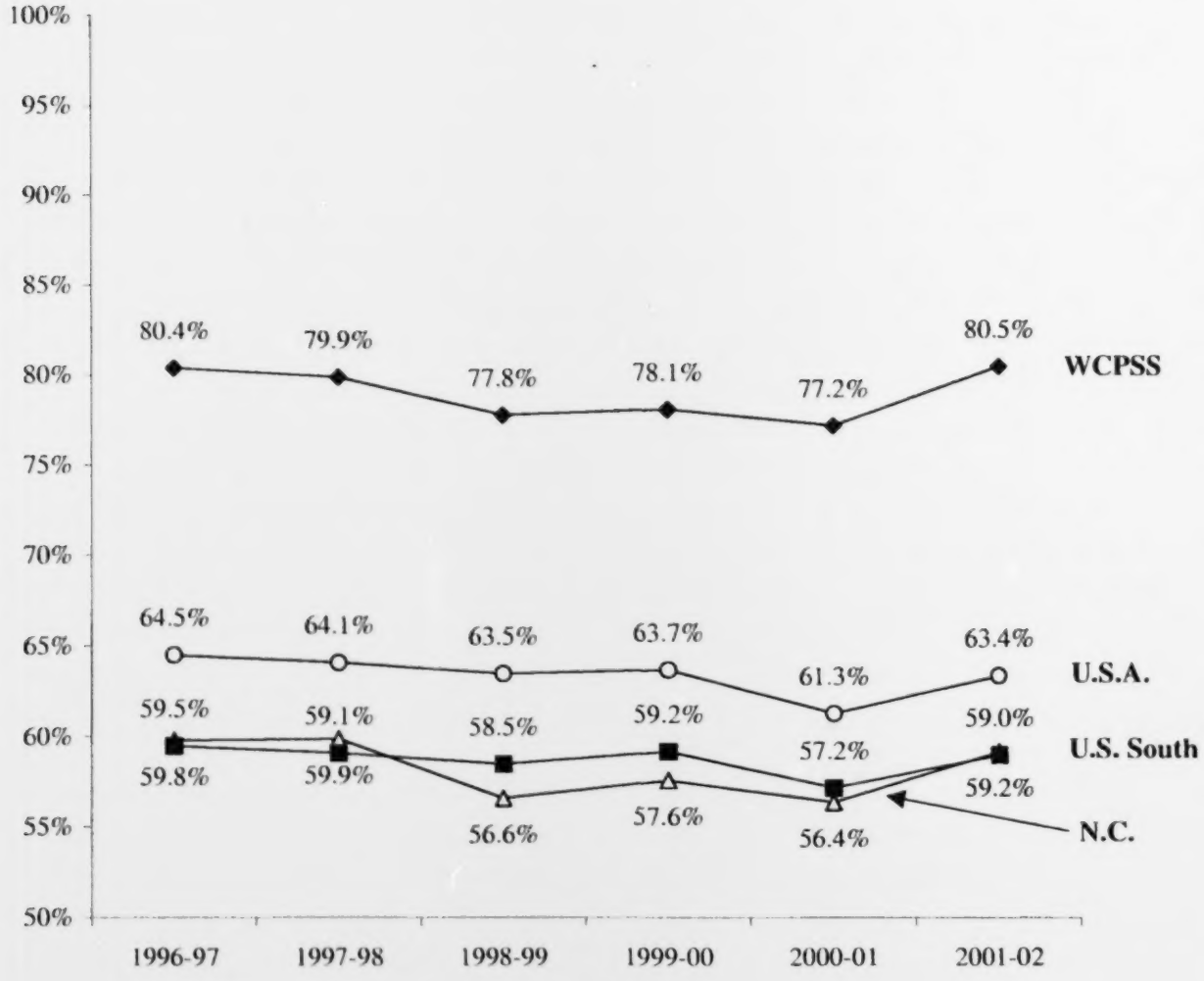
Figure 1
Overall AP Results
for WCPSS, NC, the South, and the U.S.A. (1997-2002)

	Year	WCPSS	N.C.	U.S. South	U.S.A.
Average Exam Score	1996-97	3.42	2.87	2.88	3.02
	1997-98	3.44	2.89	2.88	3.02
	1998-99	3.41	2.81	2.87	3.02
	1999-00	3.38	2.83	2.88	3.01
	2000-01	3.38	2.81	2.84	2.95
	2001-02	3.48	2.87	2.87	3.00
Percent of Scores 3 or Higher	1996-97	80.4%	59.8%	59.5%	64.5%
	1997-98	79.9%	59.9%	59.1%	64.1%
	1998-99	77.8%	56.6%	58.5%	63.5%
	1999-00	78.1%	57.6%	59.2%	63.7%
	2000-01	77.2%	56.4%	57.2%	61.3%
	2001-02	80.5%	59.2%	59.0%	63.4%

Note: The U.S. South as defined by the College Board includes Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

Figure 2 shows the six-year trend in the percentage of AP exams with scores of 3 or higher for WCPSS, North Carolina, the South, and the United States. The graph shows that WCPSS students have consistently achieved higher scores than their counterparts in other regions.

Figure 2
Percent of AP Exams With Scores of 3 or Higher for WCPSS, NC, Southern Region, and United States (1997-02)



WCPSS PARTICIPATION IN AP EXAMS OVER TIME

Student participation in AP testing has increased substantially over the six-year period 1996-2002. The number of WCPSS juniors and seniors taking the exams has grown from 1,441 in 1996-97 to 2,344 in 2001-02. During the same time period, there has been a 75% total increase in the number of AP exams, from 2,785 in 1997 to 4,878 in 2001-02.

However, the overall participation **rate** of juniors and seniors (the percentage of all 11th- and 12th-graders who take an AP exam) has not grown at the same pace. It rose from 16.3% in 1997 to 19.7% in 2002. Figure 3 shows the number of AP exams taken by WCPSS students over the past six years, the number of juniors and seniors taking them, the participation rate of juniors and seniors in AP exams, and the percent of all exams with scores of 3 or higher.

Figure 3
WCPSS Participation and Performance on AP Exams over a Six-Year Period

Overall for WCPSS	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Number of Exams Taken	2,785	3,197	3,471	3,806	4,320	4,878
Number of Juniors and Seniors Taking Exams[1]	1,441	1,609	1,723	1,928	2,132	2,344
Percent of Juniors and Seniors Taking AP Exams[2]	16.3%	17.4%	18.0%	18.9%	19.7%	19.7%
Percent of Exams with Scores of 3 or higher	80.4%	79.9%	77.8%	78.1%	77.2%	80.5%

Notes

1 This report focuses on participation in AP exams by 11th- and 12th-grade students. However, the number of exams taken includes a small number of exams taken by 9th and 10th grade students as well. In 2001-02, there were 3 students in 9th grade and 120 in 10th grade who took at least one AP exam. The majority of them were enrolled at two schools: Broughton (58) and Enloe (38).

2 The percentage is calculated using WCPSS student enrollment data for September, 2001.

WCPSS PERFORMANCE ON MOST COMMON AP EXAMS

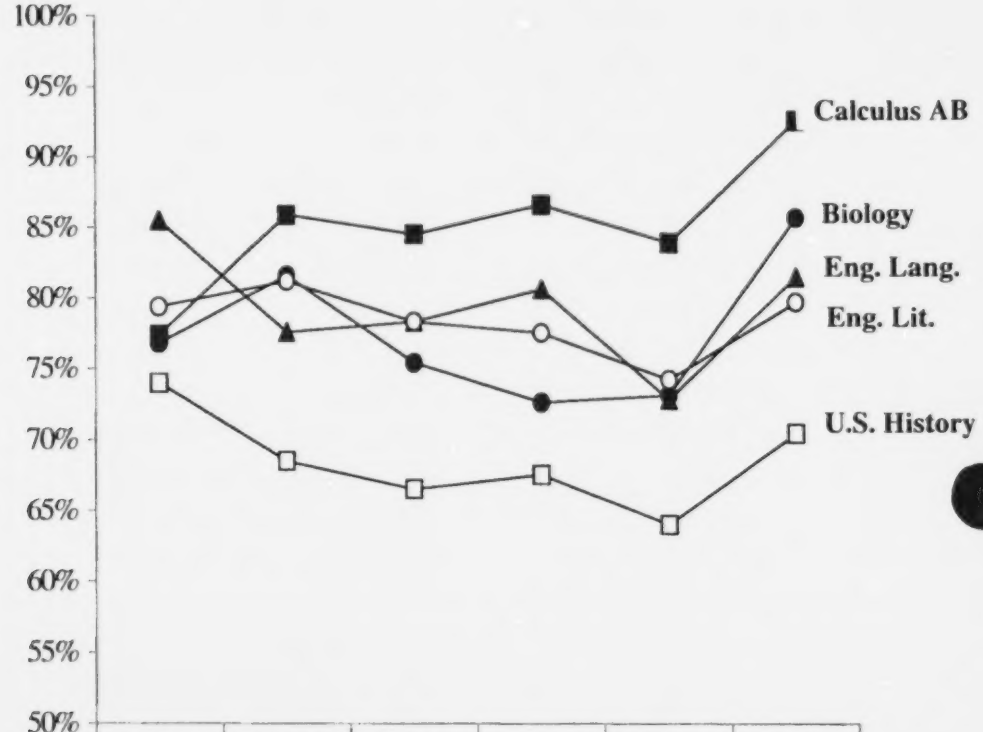
Both average exam scores and the percent of exams with scores of 3 or higher rose substantially on each of the five most common AP exams in 2001-02: Biology, Calculus AB, English Language and Composition, English Literature and Composition, and U.S. History. WCPSS students performed the best on Calculus AB, achieving an average exam score of 4.13, with 92.6% of exams receiving scores of 3 or higher. Figure 4 presents performance statistics for the past four years.

Figure 4
WCPSS Performance in 5 Most Common AP Exams (1999-02)

AP Course	Year	Number of AP Exams	Average Exam Score	Percent Scoring 3 or Higher
Biology	1998-99	211	3.26	75.4%
	1999-00	248	3.15	72.6%
	2000-01	227	3.34	73.1%
	2001-02	238	3.65	85.7%
Calculus AB	1998-99	354	3.78	84.5%
	1999-00	374	3.84	86.6%
	2000-01	366	3.8	83.9%
	2001-02	418	4.13	92.6%
English Language and Composition	1998-99	558	3.27	78.3%
	1999-00	651	3.26	80.6%
	2000-01	824	3.13	72.8%
	2001-02	788	3.35	81.5%
English Literature and Composition	1998-99	355	3.34	78.3%
	1999-00	364	3.27	77.5%
	2000-01	462	3.16	74.2%
	2001-02	537	3.34	79.7%
U.S. History	1998-99	523	3.18	66.5%
	1999-00	644	3.1	67.5%
	2000-01	691	3.09	64.0%
	2001-02	724	3.23	70.4%

Figure 5 shows the six-year trend in WCPSS performance on the five most common AP exams.

Figure 5
Percent of Exams with Scores of 3 or Higher in Five Common Exams
1997-2002



	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Calculus AB	77.4%	85.9%	84.5%	86.6%	83.9%	92.6%
Biology	76.8%	81.6%	75.4%	72.6%	73.1%	85.7%
English Language and Composition	85.5%	77.6%	78.3%	80.6%	72.8%	81.5%
English Literature and Composition	79.4%	81.2%	78.3%	77.5%	74.2%	79.7%
U.S. History	74.0%	68.5%	66.5%	67.5%	64.0%	70.4%

WCPSS' performance on the five most common AP exams compared favorably with that of North Carolina, the U.S. South, and the nation as a whole. The percentage of WCPSS scores of 3 or higher on the Biology exam exceeded that of the U.S. by 21 percentage points, on Calculus AB by 25 percentage points, on English Language and Composition by 20 percentage points, on English Literature and Composition by 15 percentage points, and on U.S. History by 16 percentage points. The gap with North Carolina and the U.S. South was slightly wider for some exams. Figure 6 shows exam results for the past six years.

Figure 6
Percent of Scores of 3 or Higher in Selected Courses for WCPSS, N.C., U.S. South, and U.S. (1997-2002)

AP Course		1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Biology	WCPSS	76.8%	81.6%	75.4%	72.6%	73.1%	85.7%
	N.C.	57.4%	54.0%	53.1%	54.5%	52.8%	61.1%
	U.S. South	60.4%	54.6%	57.3%	57.6%	52.1%	58.1%
	U.S.	67.3%	60.9%	65.0%	64.2%	58.5%	64.6%
Calculus AB	WCPSS	77.4%	85.9%	84.5%	86.6%	83.9%	92.6%
	N.C.	54.2%	61.2%	55.9%	56.6%	60.8%	64.2%
	U.S. South	54.7%	60.9%	57.8%	59.0%	60.3%	63.8%
	U.S.	59.3%	65.8%	63.4%	63.2%	63.6%	67.3%
English Lang. and Composition	WCPSS	85.5%	77.6%	78.3%	80.6%	72.8%	81.5%
	N.C.	67.0%	64.7%	60.3%	61.4%	57.9%	63.7%
	U.S. South	62.3%	61.8%	61.5%	61.9%	58.7%	62.1%
	U.S.	65.1%	64.9%	62.2%	62.9%	58.3%	61.5%
English Lit. and Composition	WCPSS	79.4%	81.2%	78.3%	77.5%	74.2%	79.7%
	N.C.	65.8%	64.2%	64.4%	64.8%	59.3%	61.3%
	U.S. South	65.1%	65.3%	64.8%	66.2%	60.1%	63.4%
	U.S.	68.9%	68.1%	68.2%	68.7%	63.1%	66.0%
U.S. History	WCPSS	74.0%	68.5%	66.5%	67.5%	64.0%	70.4%
	N.C.	49.7%	49.9%	49.2%	49.9%	49.7%	54.7%
	U.S. South	48.6%	47.1%	50.8%	48.8%	47.0%	50.3%
	U.S.	54.7%	53.7%	50.8%	53.9%	50.9%	53.7%

WCPSS Results for All AP Exams

There are 35 courses in the areas of art, foreign language, language arts, mathematics, science, and social studies for which there is an AP exam. WCPSS students took AP exams for 30 of the courses in 2001-02. Figure 7 summarizes the results of all 30 of these exams. For comparative data for previous years, see Figure 23.

Figure 7
WCPSS Participation and Performance on AP Exams, 2001-02

AP Course	Number of Exams Taken	Number of Schools	Percent of Scores of 3 or Higher		AP Course	Number of Exams Taken	Number of Schools	Percent of Scores of 3 or Higher
Art: History	16	3	75.0		French: Language	48	9	85.4
Art Studio: Drawing	9	6	100.0		French: Literature	9	2	100.0
Art Studio: 2-D Design	11	3	81.8		German: Language	7	5	100.0
Biology	238	13	85.7		Government Politics: Comparative	20	2	100.0
Calculus AB	418	14	92.6		Government Politics: U.S.	100	4	94.0
Calculus BC	202	11	89.1		Music Theory	18	4	88.9
Chemistry	206	15	72.8		Physics B	140	12	70.7
Computer Science A	38	5	84.2		Physics C: Electricity & Magnetism	84	4	82.1
Computer Science AB	20	5	75.0		Physics C: Mechanics	19	3	100.0
Economics: Macro	28	4	71.4		Psychology	167	3	85.0
Economics: Micro	12	4	66.7		Spanish: Language	93	13	81.7
English Language and Composition	788	15	81.5		Spanish: Literature	11	3	90.9
English Literature and Composition	537	15	79.7		Statistics	364	13	78.0
Environment Science	299	11	75.3		U.S. History	724	15	70.4
European Hist.	197	14	86.8		World History	55	2	74.5

AP Results by Gender

As in previous years, more females than males took AP exams in 2001-02. A total of 1,380 female students and 1,126 male students in WCPSS took an AP exam. However, the average WCPSS score across all AP exams was slightly higher for males (3.56) than for females (3.42). Also, 82% of males scored 3 or higher on exams compared to 79% of females.

Figure 8 presents data on participation and performance in AP courses and exams by gender for WCPSS in 2001-02. The data show that a higher percentage of female students in 11th and 12th grades were enrolled in AP courses than males. Females also were more likely than males to take an AP exam. While females represented 50.2% of all 11th- and 12th-grade students, they accounted for 55.8% of all students taking an AP exam

Figure 8
Student Membership in 11th and 12th Grades, Enrollment in AP Courses, and Students Taking AP Exams by Gender
2001-02

Participation and Performance		Female	Male
H.S. Membership (11th and 12th Grade)	Number of Students	5,972	5,929
	Percent of Students	50.2%	49.8%
H.S. Students Enrolled in AP Courses*	Number of Students	2,075	1,679
	Percent of AP Students	55.3%	44.7%
H.S. Students Taking AP Exams	Number of Students Taking AP Exams	1,309	1,035
	Percent Taking Exam	55.8%	44.2%
AP Exam Results*	Number of Exams	2,649	2,229
	Mean Score	3.42	3.56
	Percent of Scores ≥3	79.4%	81.9%

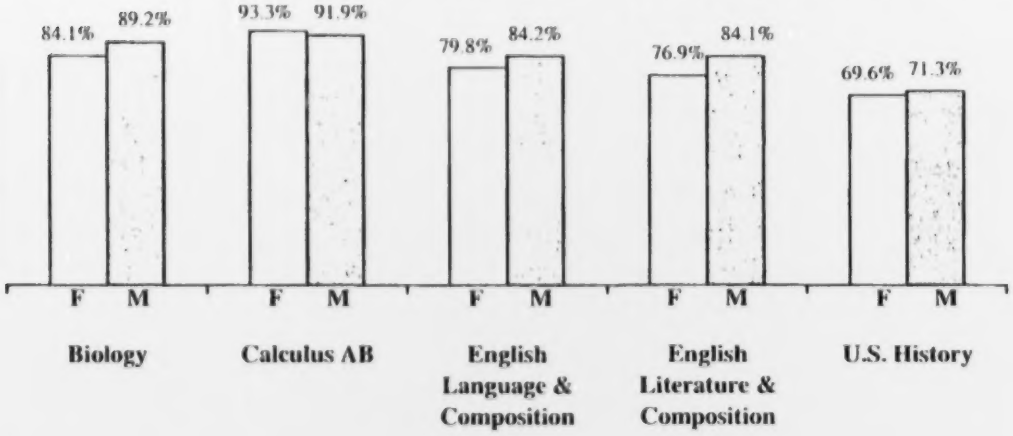
*Note: The number of high school students enrolled in AP courses, and the number of AP exams, includes 9th and 10th grade students in addition to 11th- and 12th-grade students.

Figures 9 and 10 show data by gender for the five AP courses offered in WCPSS high schools in 2001-02. Participation and performance by female and male students varied greatly according to the exam. For example, substantially more females took English Language and Composition, English Literature and Composition, and Biology exams. On the other hand, more males took Computer Science, Calculus AB, and Physics exams. Males scored higher on four of the five most common exams, while females scored higher on Calculus AB.

Figure 9
AP Results by Gender for Five AP Exams (2001-02)

AP Exam	Females			Males		
	Number of AP Exams	Average Score	Scores of 3 or Higher	Number of AP Exams	Average Score	Scores of 3 or Higher
Biology	164	3.62	84.1%	74	3.73	89.2%
Calculus AB	195	4.18	93.3%	223	4.08	91.9%
English Language & Composition	491	3.32	79.8%	297	3.40	84.2%
English Literature & Composition	329	3.27	76.9%	208	3.44	84.1%
U.S. History	375	3.23	69.6%	349	3.22	71.3%

Figure 10
Percent of Exams with Scores of 3 or Higher by Gender (2001-02)



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AP Results by Race

Figures 11 and 12 show participation rates and exam performance by race in WCPSS. To assess AP participation by race, the racial groups for students who were enrolled in AP courses (WCPSS data) and who took the AP exam (*College Board Report APPC 2200*) were compared to the population of racial groups at high schools in 2001-02 (WCPSS data).

Compared to their proportion of all 11th- and 12th-grade students, Asians were the most over-represented racial group among all AP exam takers. While constituting 4.3% of all students, they accounted for 9.0% of all AP exam takers. Students of Asian background were much more likely to take AP courses than students of all other racial groups. In fact, 62% of Asian juniors and seniors were enrolled in an AP course during the 2001-02 school year, compared to 36% of white students, 20% of Hispanic/Latino students and 11% of Black students.

On the other hand, Black students were not only less likely than members of all other racial groups to be enrolled in an AP course, they also were less likely to take an AP exam. Overall, Blacks constituted 21.6% of WCPSS 11th- and 12th-grade students, but they composed only 4.2% of students taking an AP exam. Only 35% of Black students who were enrolled in an AP course completed an AP exam, a much lower percentage than that of Asians (68%), Whites (61%), and Hispanic/Latinos (86%).

Figure 11
WCPSS High School Enrollment and AP Results by Race (2001-02)

Race	Participation						Performance		
	H.S. Membership in WCPSS (Fall 2001)		H.S. Students Enrolled in AP Courses		H.S. Students Taking AP Exams		Exams Given	AP Exam Results	
	Number of Juniors & Seniors	Percent of Juniors & Seniors	Number of Students	Percent of AP Students	Number Taking Exam	Percent of Exam Takers	Number of Exams	Mean Score	Percent of Scores ≥3
Not Stated	N/A	N/A	N/A	N/A	41	1.7%	111	3.50	79.3%
Native American	N/A	N/A	4	0.1%	7	0.3%	13	3.38	69.2%
Black	2,571	21.6%	284	7.6%	99	4.2%	177	2.84	60.5%
Hispanic/ Latino	285	2.4%	57	1.5%	49	2.1%	107	N/A	82.2%
Asian	508	4.3%	313	8.3%	212	9.0%	561	3.63	81.8%
White	8,402	70.6%	3,066	81.7%	1,877	80.1%	3,774	3.49	81.2%
Other	135	1.1%	30	0.8%	59	2.5%	135	3.46	83.0%
Total	11,901	100.0%	3,754	100.0%	2,344	99.9%	4,878	3.48	80.5%

Sources: WCPSS membership by race and gender, September 2001-02; Advanced Placement Report APPC2200.

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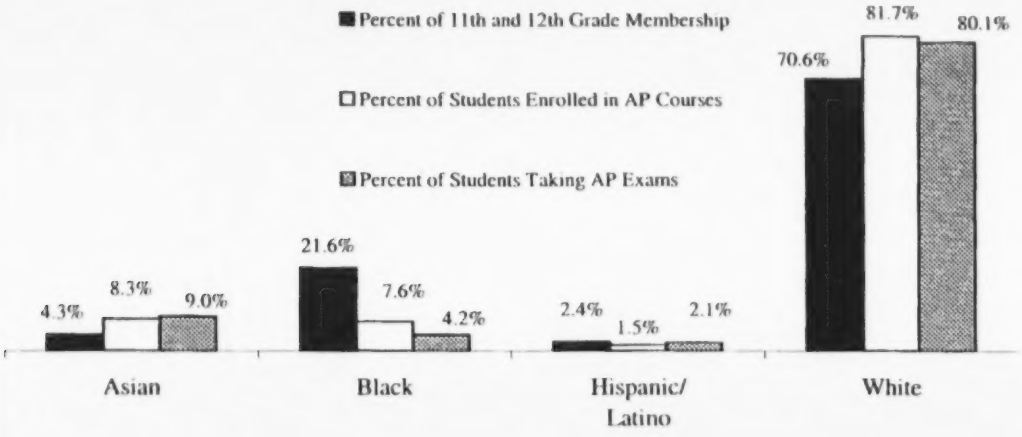
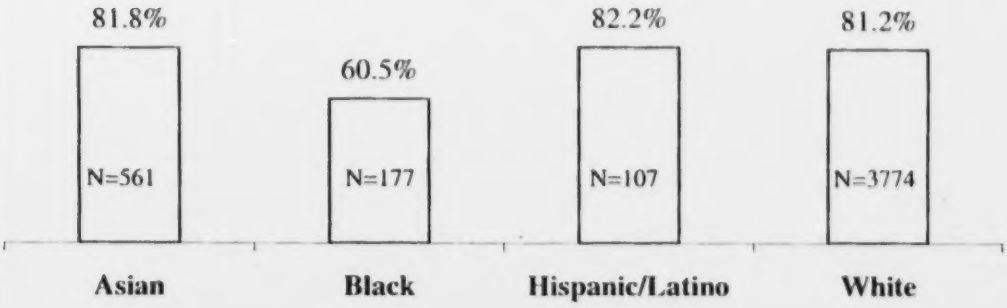
Figure 12
Representativeness by Race in Student Membership, Enrollment in AP Courses, and Students Taking AP Exams (2001-02)



PERFORMANCE ON AP EXAMS BY RACE

Performance on AP exams as measured by the overall mean grade and the percentage of exams with scores of 3 or higher also differed by race. As illustrated in Figure 13, Asians, Hispanic/Latinos, and Whites all had roughly the same percentage of exams with scores of 3 or higher. The percentage for Black students (60.5%), however, was about 20 percentage points lower than these groups. (Mean grades on exams by race are shown in Figure 11.)

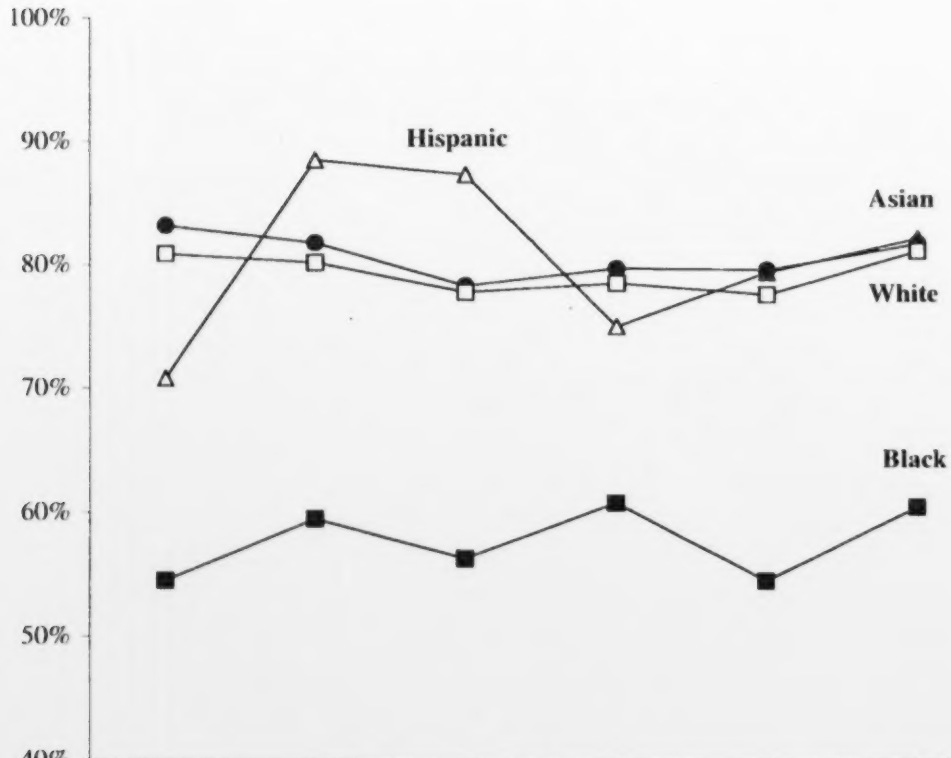
Figure 13
Percentage of AP Exams with Scores of 3 or above by Race (2001-02)



OVERALL AP PERFORMANCE BY RACE OVER TIME

Compared to the previous year, all racial groups performed better in 2001-02. For Black students, the proportion of exams with scores of 3 or higher increased the most (+6 percentage points), followed by Whites (+3.6), Hispanic/Latinos (+2.8), and Asians (+2.2). However, as shown in Figure 14, over the past six years, scores for Asian and White students have fluctuated modestly, staying relatively stable overall. Scores for Hispanic/Latino and Black students have been less consistent and show large changes from year to year. This fluctuation is related to the smaller number of students in the Hispanic/Latino and Black groups.

Figure 14
Percentage of AP Exams with Scores of 3 or Higher by Race (1997-2002)



	1997	1998	1999	2000	2001	2002
Black	54.5%	59.5%	56.3%	60.8%	54.5%	60.5%
Hispanic	70.8%	88.5%	87.3%	75.0%	79.4%	82.2%
Asian	83.2%	81.8%	78.3%	79.7%	79.6%	81.8%
White	80.9%	80.2%	77.8%	78.5%	77.6%	81.2%

RESULTS ON FIVE AP EXAMS BY RACE

Figure 15 shows the percent of scores that were 3 or higher for the five most commonly taken AP exams disaggregated by race in 2000-01 and 2001-02. The figure also shows the number of students from each racial group who took the exams.

All racial groups performed better on most of the five exams in 2001-02 than they did the previous year. White students and Asian students had their largest gains in Biology and Calculus AB. The mean score for both groups surpassed 4.0, with more than 90% of exams with scores of 3 or higher in Calculus AB.

The small number of Black and Hispanic/Latino students taking a particular AP exam precludes any conclusions concerning the direction of their scores from one year to the next. The two AP exams taken by the most Black students were English Language and Composition (34 students) and U.S. History (23 students). Compared to the previous year, their scores in these two subjects were up modestly; however, the percentage of Black students with scores of 3 or higher was about 35 percentage points lower than that for Asian and White students in English Language and Composition, and about 26 points lower in U.S. History. On the other hand, although only a small number of Hispanic/Latino students took one of these five AP exams, the percent scoring a 3 or higher was comparable to that of Asian and White students, and for some exams, higher.

Figure 15
Percent of Exams with Scores of 3 or Higher for the Five Most Frequently Taken AP Exams by Race (2001-02)

Race		Biology		Calculus AB		English Lang. & Comp.		English Lit. & Comp.		U.S. History	
		2001	2002	2001	2002	2001	2002	2001	2002	2001	2002
Black	% 3+	16.7%	80.0%	77.8%	80.0%	45.9%	47.1%	66.7%	76.5%	42.1%	43.5%
	N	6	5	9	15	37	34	21	17	19	23
Asian	% 3+	62.2%	81.8%	86.4%	91.8%	75.4%	82.5%	76.5%	80.0%	69.4%	69.0%
	N	37	33	44	73	61	80	34	40	72	71
Hispanic/ Latino	% 3+	40%	100%	90%	100%	82.4%	92.3%	77.8%	61.5%	66.7%	69.2%
	N	5	2	10	7	17	13	9	13	12	13
White	% 3+	78.0%	86.8%	84.7%	93.5%	73.6%	83.1%	74.4%	79.7%	63.8%	70.4%
	N	168	182	288	307	671	614	379	442	563	572

AP Results by High School

Figure 16 presents data on each high school's AP participation and performance over a five-year period. The table shows the number of students taking AP exams in 2001-02, the percent of juniors and seniors taking exams each year, and the percent of exams with a score of 3 or higher for all 15 high schools for the period 1996-97 to 2001-02.

Participation

- There was large variation in the percentage of juniors and seniors who took at least one AP exam each year, from 10.4% at Fuquay-Varina High School to 45.0% at Enloe High School. Enloe's high participation rate is likely related to the school's status as a magnet high school with a program for gifted and talented students. Excluding Enloe, participation ranged from approximately 10% to 33% of 11^{th}- and 12^{th}-grade students.

- Compared to the previous year, participation in AP exams decreased at eight high schools and increased at seven in 2001-02. Green Hope High School had the largest increase in participation (+8.2%) while Wakefield had the largest decrease in participation (-5.2%).

Performance

- The percent of AP exams with scores of 3 or higher also varied greatly from school to school, from 45.8% at East Wake to 91% at Apex. While scores were highest at Apex, participation was below the system-wide rate.

- Fourteen of the 15 schools exceeded the national average of 63.4% for the percent of scores 3 or higher.

- Compared to the previous year, performance on AP exams improved at 11 schools and declined at four in 2001-02. Wakefield had the largest increase in the percent of exams with scores of 3 or higher (+17%) and Green Hope had the largest decrease (-6.8%).

- In the past, an inverse relationship between participation and performance had been observed. As participation in AP exams increased, the percent of exams with a score of 3 or higher decreased. Comparing this year's rates with the previous year's, evidence supporting this relationship was found at only six of the 15 high schools.

HIGH SCHOOL RESULTS ON FIVE AP EXAMS

Figure 17 shows results for the five most common exams (Biology, Calculus AB, English Language and Composition, English Literature and Composition and U.S. History) by high school. Participation (percent of juniors and seniors taking the exam) and performance (percent of exams receiving a score of 3 or higher) are shown for each school.

- Participation was highest on the English Language and Composition exam, with 6.6% of WCPSS juniors and seniors taking the exam. Participation was lowest on Biology (2%).

- Performance was highest on Calculus AB (92.6% of scores 3 or higher), and lowest on U.S. History (70.4%).

Figure 16
Advanced Placement Overall Results for WCPSS High Schools
Over a Five-Year Period

High School	Participation						Performance				
	Number of students taking exams	Percent of Juniors and Seniors Taking AP Exams					Percent of Exams with a Score of 3 or Higher				
		97-98	98-99	99-00	00-01	01-02	97-98	98-99	99-00	00-01	01-02
Apex	134	14.1	14.3	16.9	16.8	13.8	86.2	90.0	89.9	88.4	91.0
Athens Drive	157	14.5	12.5	18.9	15.1	19.0	74.9	80.9	64.8	79.0	79.8
Broughton	246	25.2	22.1	24.1	26.2	26.3	83.5	75.9	74.0	70.4	80.7
Cary	127	15.4	16.4	17.7	18.8	17.0	80.8	76.3	78.3	78.5	77.4
East Wake	89	9.2	12.2	15.6	12.7	12.3	62.4	52.9	63.3	51.1	45.8
Enloe	526	40.2	40.8	41.1	47.3	45.0	81.1	81.5	82.7	82.4	85.3
Fuquay-Varina	74	10.1	8.9	8.9	9.4	10.4	60.0	57.6	56.8	62.2	69.5
Garner	115	9.8	9.6	8.9	10.7	12.8	63.6	68.2	68.0	55.3	66.0
Green Hope	279	N/A	N/A	N/A	24.8	33.0	N/A	N/A	N/A	85.2	78.4
Leesville	149	15.0	13.1	18.6	18.7	15.4	95.7	94.2	91.3	86.6	88.8
Millbrook	167	15.3	19.9	21.3	17.1	18.4	77.9	80.4	75.2	74.7	84.1
Sanderson	128	14.0	15.9	17.5	17.3	17.7	79.6	79.8	75.8	82.1	86.0
SE Raleigh	174	4.2	14.6	15.4	19.1	18.9	71.4	67.3	75.4	66.6	77.5
WF-Rolesville	63	14.7	19.2	11.6	12.8	11.8	80.3	53.9	68.8	76.8	70.7
Wakefield	78	N/A	N/A	N/A	19.9	14.7	N/A	N/A	N/A	63.5	80.5

Notes: The number of students taking the exam at each school includes 9th- and 10th-grade students in addition to 11th- and 12th-grade students. The numbers are for 2001-02.
N/A: Not applicable.

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Figure 17
Participation and Performance by WCPSS High Schools:
Results for Common Advanced Placement Courses (2001-02)

School	Biology		Calculus AB		English Lang. & Comp.		English Liter. & Comp.		U.S. History	
	% of Jrs/Srs Taking Exam	% of Exams Scored ≥ 3	% of Jrs/Srs Taking Exam	% of Exams Scored ≥ 3	% of Jrs/Srs Taking Exam	% of Exams Scored ≥ 3	% of Jrs/Srs Taking Exam	% of Exams Scored ≥ 3	% of Jrs/Srs Taking Exam	% of Exams Scored ≥ 3
Apex	1.2	81.8	3.1	100	4.2	82.1	0.9	87.5	4.9	89.1
Athens Drive	2.0	75.0	4.5	100	6.5	88.5	6.0	79.2	5.1	46.3
Broughton	0.8	100	0.0	NA	7.8	87.3	5.2	89.2	6.1	69.8
Cary	2.1	80.0	3.7	100	4.6	87.9	4.3	77.4	7.7	67.9
East Wake	1.8	46.2	3.6	73.1	2.5	38.9	6.3	51.1	2.0	42.9
Enloe	5.2	83.9	7.9	83.3	21.8	82.4	11.9	90.6	17.4	75.8
Fuquay-Varina	0.9	83.3	0.1	0	2.5	52.9	1.0	85.7	2.9	90.0
Garner	1.7	100	1.8	81.3	5.2	60.0	3.8	51.5	3.6	58.1
Green Hope	4.8	92.3	5.1	92.9	11.4	86.2	4.0	90.9	11.0	68.9
Leesville	1.3	91.7	4.3	100	4.9	87.0	1.9	94.4	2.4	87.0
Millbrook	1.2	100	4.0	97.1	5.5	83.7	5.5	75.5	4.9	76.7
Sanderson	3.3	91.3	6.1	100	2.6	88.9	3.0	90.5	5.0	68.6
SE Raleigh	1.7	86.7	3.2	92.9	4.8	88.1	4.1	88.9	5.1	60.0
WF-Rolesville	0.0	NA	0.2	100	4.1	80.0	6.7	72.7	3.7	61.1
Wakefield	0.0	NA	1.9	100	5.2	77.8	2.1	54.5	6.4	66.7
WCPSS Average	**2.0**	**85.7**	**3.5**	**92.6**	**6.6**	**81.5**	**4.5**	**79.7**	**6.1**	**70.4**

Note: NA indicates schools where no students took that particular AP exam.

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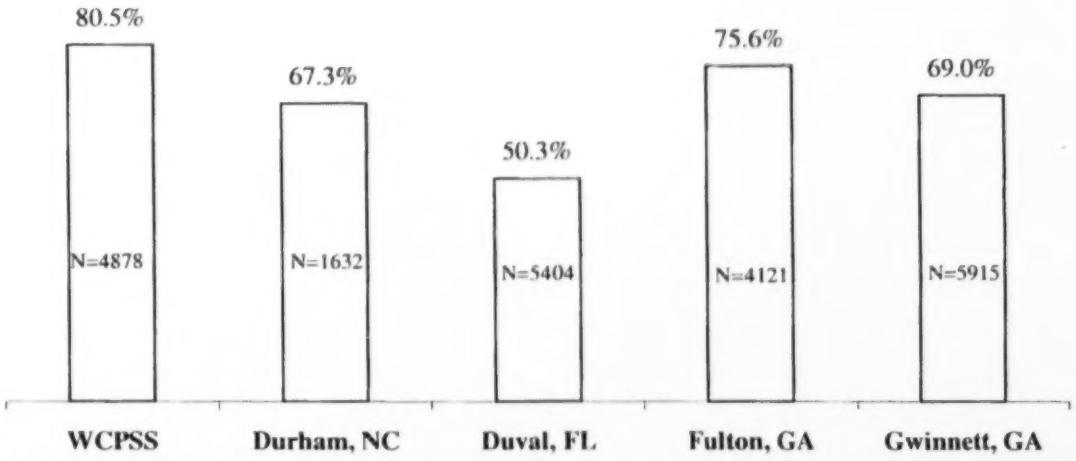
Comparisons with Other School Districts

Figure 18 shows the overall 2002 AP exam results for WCPSS compared to several large school districts in other states. With 80.5% of exams with scores of 3 or higher, the WCPSS success rate was higher than these other school districts. It should be noted, however, that some of these school districts may have a higher rate of student participation in AP exams than WCPSS, which may account in part for their lower success rate.

Figure 18
Percent of AP Exam Scores of 3 or Higher for
WCPSS and Comparable Large School Districts (2001-02)

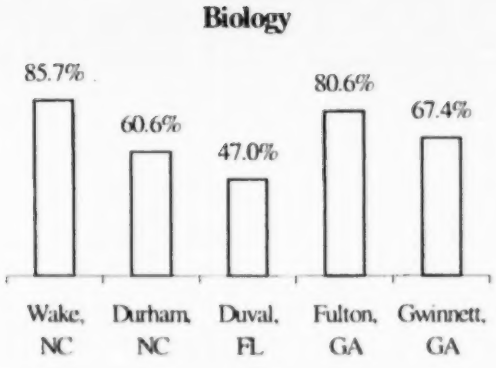


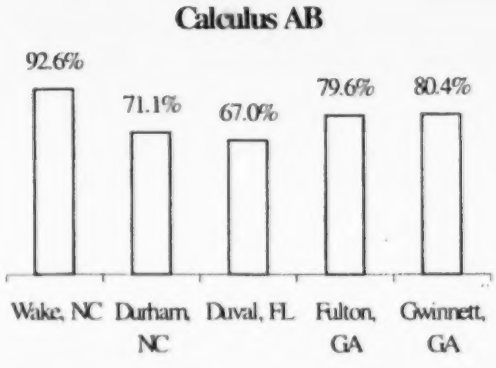
Note: N=The total number of AP exams taken in each school district.

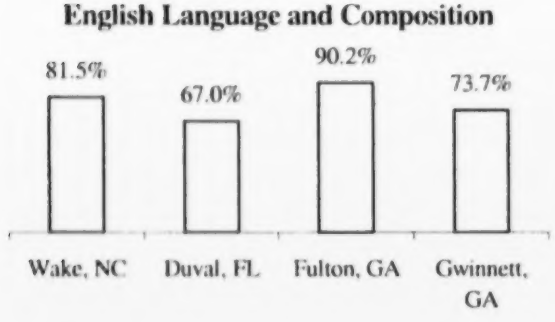
SCORES ON FIVE COMMON AP EXAMS

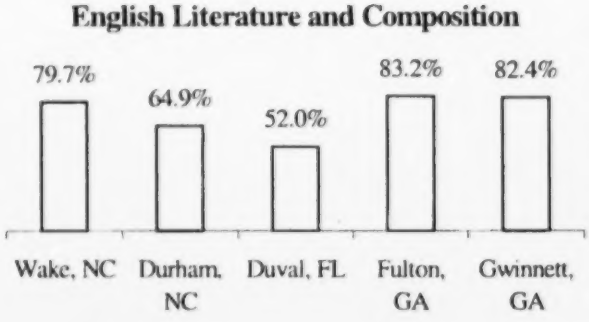
WCPSS students also compared favorably with students in other districts on the five most common AP exams. Figure 19 shows that WCPSS had a higher percentage of scores of 3 or higher on the Biology and Calculus AB exams, and slightly more on the U.S. History exams. However, on the two English exams, WCPSS's scores were in the middle of the distribution. Figure 20 provides information on the number of tests taken in each of the districts.

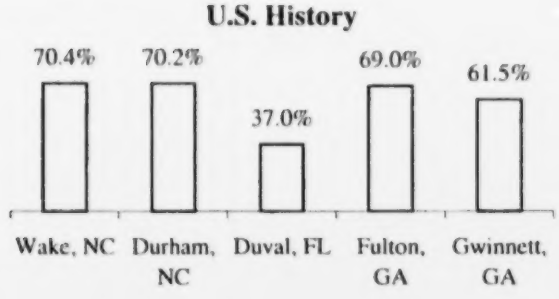
Figure 19
Percent of AP Exam Scores of 3 or Higher for Selected Courses for WCPSS and Comparable Large School Districts
2001-02











Note: No students in Durham, NC, took the English Language and Composition exam.

Figure 20
Percent of AP Exam Scores of 3 or Higher for Selected Courses for WCPSS and Comparable Large School Districts
2001-02

School District	Biology		Calculus AB		English Lang. & Comp.		English Lit. & Comp.		U.S. History	
	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher
Wake, NC	238	85.7%	418	92.6%	788	81.5%	537	79.7%	724	70.4%
Durham, NC	104	60.6%	180	71.1%	N/A	N/A	245	64.9%	322	70.2%
Duval, FL	223	47.0%	397	67.0%	630	67.0%	728	52.0%	995	37.0%
Fulton, GA	160	80.6%	309	79.6%	184	90.2%	410	83.2%	600	69.0%
Gwinnett, GA	224	67.4%	491	80.4%	179	73.7%	541	82.4%	728	61.5%

COMPARISON OF SCORES BY RACE ACROSS DISTRICTS

The bar charts in Figure 21 show overall AP exam results by race for WCPSS and comparable school districts. WCPSS performed the best among the selected districts for each of the racial groups, although Fulton, GA's percentages were almost the same for Asian and White students.

All of the five school districts reported a large gap in achievement between Black students and students from other racial groups. While a higher percentage of Black students in WCPSS (60.5%) scored a 3 or higher compared to other districts, it should be noted that fewer Black students took AP exams in WCPSS than in the other districts. For information on the number of exams disaggregated by race, see Figure 22.

Figure 21
Percent of AP Exam Scores of 3 or Higher by Race
for WCPSS and Comparable Large School Districts
2001-02

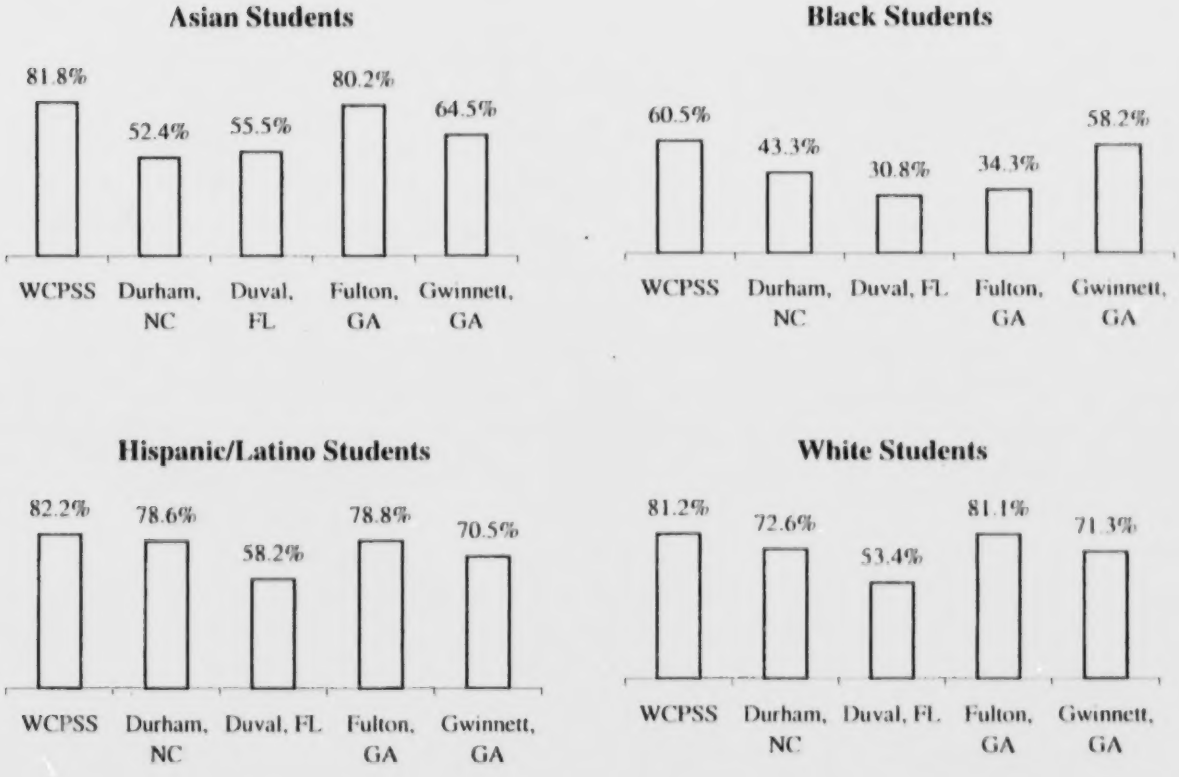


Figure 22
Percent of AP Exam Scores of 3 or Higher by Race
for WCPSS and Comparable Large School Districts
2001-02

School District	All Students		Asian		Black		Hispanic/Latino		White	
	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher	Number of Exams	Percent of Scores of 3 or Higher
Wake, NC	4878	80.5%	561	81.8%	177	60.5%	107	82.2%	3774	81.2%
Durham, NC	1632	67.3%	84	52.4%	238	43.3%	28	78.6%	1202	72.6%
Duval, FL	5404	50.3%	591	55.5%	863	30.8%	239	58.2%	3667	53.4%
Fulton, GA	4121	75.6%	660	80.2%	440	34.3%	85	78.8%	2697	81.1%
Gwinnett, GA	5915	69.0%	1166	64.5%	237	58.2%	139	70.5%	4117	71.3%

Figure 23
AP Exams in WCPSS, 1997-2002

TEST	Number of Schools Administering						Number of Exams Taken						Percent of Exams With Scores of 3 or Higher					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
All Exams	12	13	13	13	15	15	2785	3197	3471	3806	4320	4878	80.4	79.9	77.8	78.1	77.2	80.5
Art History	2	2	2	2	3	3	16	21	24	13	16	16	100.0	90.5	87.5	84.6	93.8	75.0
Art: Drawing	2	3	1	1	1	6	6	3	4	4	8	9	83.3	66.7	50.0	75.0	87.5	100.0
Art:2-D Design	N/A	3	4	5	3	3	N/A	7	12	24	6	11	100.0	85.7	66.7	83.3	83.3	81.8
Art: 3-D Design	0	0	0	0	0	0	N/A	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
Biology	12	11	13	13	15	13	254	185	211	248	227	238	76.8	81.6	75.4	72.6	73.1	85.7
Calculus AB	12	13	13	13	15	14	349	404	354	374	336	418	77.4	85.9	84.5	86.6	83.9	92.6
Calculus BC	7	10	10	10	11	11	77	117	150	152	192	202	93.5	93.2	81.3	90.1	95.3	89.1
Chemistry	10	11	10	10	14	15	138	147	133	197	185	206	76.1	81.0	74.4	81.7	73.5	72.8
Computer Science A	3	2	3	3	6	5	12	8	12	12	17	38	41.7	62.5	75.0	91.7	88.2	84.2
Computer Science AB	2	4	2	2	4	5	4	12	11	13	31	20	75.0	33.3	72.7	69.2	96.8	75.0
Economics: Micro	1	3	1	1	2	4	9	11	22	15	6	12	66.7	63.6	50.0	86.7	66.7	66.7

TEST	Number of Schools Administering						Number of Exams Taken						Percent of Exams With Scores of 3 or Higher					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
Economics: Macro	1	2	2	2	2	4	9	10	23	15	10	28	88.9	60.0	82.6	86.7	50.0	71.4
English Lang. & Comp.	12	12	13	13	15	15	497	536	558	651	824	788	85.5	77.4	78.3	80.6	72.8	81.5
English Lit. & Comp.	12	12	13	13	13	15	301	373	355	364	462	537	79.4	81.3	78.3	77.5	74.2	79.7
Environmental Science	0	2	5	5	7	11	0	38	87	115	177	299	N/A	81.6	55.2	76.5	82.5	75.3
European History	9	11	11	11	11	14	115	154	189	194	178	197	87.8	89.0	88.4	88.7	82.6	86.8
French Language	7	6	6	6	6	9	30	39	36	25	28	48	66.7	56.4	69.4	68.0	82.1	85.4
French Literature	2	2	2	2	2	2	6	4	11	8	6	9	50.0	50.0	81.8	87.5	66.7	100.0
German Language	4	5	4	4	3	5	9	18	11	10	7	7	88.9	61.1	90.9	80.0	85.7	100.0
Govt. & Politics Comp.	1	0	1	1	2	2	1	0	1	1	5	20	0.0	N/A	0.0	100.0	40.0	100.0
Govt. & Politics U.S.	3	4	6	6	4	4	15	21	25	37	49	100	93.3	81.0	88.0	86.5	98.0	94.0
Human Geography	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
InterN/AtioN/A! English Lang.	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
Latin Literature	1	0	1	1	1	0	2	0	5	0	2	0	0.0	N/A	40.0	N/A	50.0	N/A
Latin: Vergil	3	4	2	2	0	0	7	15	15	7	0	0	71.4	46.7	33.3	42.9	N/A	N/A

TEST	Number of Schools Administering						Number of Exams Taken						Percent of Exams With Scores of 3 or Higher					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
Music Theory	3	2	3	3	3	4	6	13	17	14	17	18	66.7	76.9	94.1	92.9	88.2	88.9
Physics B	7	9	10	10	8	12	85	107	150	118	131	140	82.4	87.9	86.7	76.3	86.3	70.7
Physics C: Elec. & Magnet	1	2	2	2	3	4	52	60	45	42	53	84	80.8	81.7	68.9	76.2	79.2	82.1
Physics C: Mechanics	3	3	4	4	3	3	75	63	54	60	59	19	92.0	92.1	90.7	85.0	93.2	100.0
Psychology	2	2	3	3	4	3	13	47	71	47	145	167	84.6	72.3	74.6	91.5	82.8	85.0
Spanish Language	10	8	10	10	10	13	77	74	55	103	83	93	75.3	85.1	78.2	81.6	88.0	81.7
Spanish Literature	3	3	4	4	3	3	9	20	19	9	29	11	100.0	85.0	78.9	77.8	86.2	90.9
Statistics	10	12	12	12	11	13	135	203	288	290	310	364	90.4	85.7	88.9	69.0	82.9	78.0
U.S. History	12	13	13	13	15	15	470	487	523	644	691	724	74.0	68.6	66.5	67.5	64.0	70.4
World History	0	0	0	0	0	2	0	0	0	0	0	55	N/A	N/A	N/A	N/A	N/A	74.5

N/A: Not Applicable

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